

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A semiconductor device comprising:

- a substrate;
- a first interconnection formed on said substrate;
- a first dielectric film covering said first interconnection;
- an opening section extending from a surface of the first dielectric film to said first interconnection, said opening section being formed in said first dielectric film;
- a plug formed in said opening section and electrically connected to said first interconnection;
- a second interconnection formed over said plug;
- a predetermined void between said plug and said second interconnection; and
- a second dielectric film covering said second interconnection, wherein said predetermined void separates said plug from said second interconnection, wherein when a predetermined voltage is applied to said second interconnection, electromigration arises in said second interconnection, thereby establishing connection between said second interconnection and said plug.

2. (Original) The semiconductor device according to claim 1,

- wherein said second interconnection has a barrier metal layer and an aluminum interconnection formed on the barrier metal layer, and
- the void is formed by means of removing an upper portion of said plug and the barrier metal layer formed on the upper portion of said plug.

3. (Original) The semiconductor device according to claim 2, wherein the void is formed by means of further removing a lower portion of the aluminum interconnection formed above said plug.

4. (Original) The semiconductor device according to claim 1, wherein said second interconnection has a barrier metal layer and an aluminum interconnection formed on the barrier metal layer, and

the void is formed by means of removing the barrier metal layer formed on said plug.

5. (Original) The semiconductor device according to claim 1, wherein said second interconnection has a barrier metal layer and an aluminum interconnection formed on the barrier layer, and

the void is formed by means of removing an upper portion of said plug.

6. (Previously Presented) A semiconductor device comprising:

a substrate;

a first interconnection formed on said substrate;

a first dielectric film covering said first interconnection;

an opening section extending from a surface of said first dielectric film to said first interconnection, said opening section being formed in said first dielectric film;

a plug formed in said opening section and electrically connected to said first interconnection;

a second interconnection formed on said first dielectric film in the vicinity of said plug ;

a second dielectric film covering said second interconnection; and

a predetermined void in said second dielectric film and located at a position adjacent to said second interconnection and at a position directly over and above said plug.

7. (Original) The semiconductor device according to claim 6, wherein said second interconnection is formed so as to become narrow in the vicinity of said plug.

Claims 8-12 (Cancelled)

13. (Original) The semiconductor device according to claim 6, wherein when a predetermined voltage is applied to said second interconnection, electromigration arises in said second interconnection, thereby establishing connection between said second interconnection and said plug.

14. (Original) The semiconductor device according to claim 7, wherein when a predetermined voltage is applied to said second interconnection, electromigration arises in said second interconnection, thereby establishing connection between said second interconnection and said plug.

15. (Previously Presented) A semiconductor device comprising:
a substrate;
a first dielectric film formed on said substrate and having an opening section;
a pad formed in the opening section and having conductivity;
a first interconnection formed on said first dielectric film such that a portion of a bottom of said first interconnection comes into contact with an upper surface of said pad;

a second interconnection formed on said first dielectric film such that a bottom surface of said second interconnection does not come into contact with the upper surface of said pad, said pad being disposed between said first and second interconnections; and

a second dielectric film covering said first and second interconnections; and

a predetermined void in said second dielectric film and located at a position on said pad.

16. (Original) The semiconductor device according to claim 15, wherein said second interconnection is formed so as to become narrow in the vicinity of said pad.

17. (Original) The semiconductor device according to claim 15, wherein when a predetermined voltage is applied to said second interconnection, electromigration arises in said second interconnection, thereby establishing connection between said second interconnection and said pad.

18. (Original) The semiconductor device according to claim 16, wherein when a predetermined voltage is applied to said second interconnection, electromigration arises in said second interconnection, thereby establishing connection between said second interconnection and said pad.